

B) AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A method for correlating MR images with physiological data, the steps comprising:
 - a) providing a physiological data pipeline 200;
 - b) acquiring physiological data 202 through the physiological data pipeline;
 - c) providing an MR data pipeline;
 - d) utilizing data acquired in the physiological data pipeline to trigger the acquisition of data within the MR data pipeline; and
 - e) acquiring MR data through the MR data pipeline;providing a visual display; and
displaying physiological data and MR data on the same visual display.
~~wherein a visual display correlation of the physiological data on an MR image is obtained.~~
2. (Currently Amended) The method as recited in claim 1 wherein said physiological data acquisition step ~~includes~~ further comprises the step of acquiring all or part of a physiological waveform.
3. (Currently Amended) The method as recited in claim 2 wherein said physiological data acquisition step further ~~includes~~ comprises the step of calculating a trigger from data acquired in the physiological data pipeline.
4. (Currently Amended) The method as recited in claim 3, ~~including~~ further comprising the step of the following step:
 - f) reconstructing MR data within the MR data pipeline after the MR data acquisition step.

5. (Currently Amended) The method as recited in claim 4, ~~including~~
further comprising the following step of:

g) storing MR data within the MR data pipeline after the MR data
reconstruction step.

6. (Cancelled)

7. (Currently Amended) A method for correlating MR images with
physiological data, the steps comprising:

a) providing a physiological data pipeline;

b) acquiring physiological data through the physiological data pipeline;

c) providing an MR data pipeline;

d) providing time synchronization across the physiological data pipeline and
the MR data pipeline to trigger the acquisition of data within the MR data pipeline; and

e) acquiring MR data through an MR data pipeline;

providing a visual display; and

displaying physiological data and MR data on the same visual display.

~~wherein a visual display correlation of the physiological data on an MR image is
obtained.~~

8. (Currently Amended) The method as recited in claim 7 wherein said
physiological data acquisition step ~~includes~~ further comprises the step of acquiring all or
part of a physiological waveform.

9. (Currently Amended) The method as recited in claim 8 wherein said
time synchronization providing step ~~includes~~ further comprises providing timers and
using simplified network time protocol to synchronize said timers.

10. (Currently Amended) The method as recited in claim 9, including further comprising the step of the following step:

f) reconstructing MR data within the MR data pipeline after the MR data acquisition step.

11. (Currently Amended) The method recited in claim 10, including further comprising: the following step;

g) providing a data store process and storing MR data within the MR data pipeline data store process.

12. (Currently Amended) The method recited in claim 11, including further comprising the following step of:

h) providing a separate data conduit for sending physiological data to the data store process.

13. (Cancelled)

14. (Currently Amended) A system for correlating MR images with physiological data such that a visual display of the physiological data on the MR image is obtained, which comprises:

- a) a physiological acquisition controller, said physiological acquisition controller including the ability to digitize physiological signals received by it;
- b) a physiological signal processing unit;
- e) an application gateway processor;
- d) a scan control processor for controlling external components of an MR device said scan control processor further including means for storing

physiological waveform segments and said application gateway processor includes means for notifying the scan control processor that a given waveform segment has been used as a trigger whereby on associated trigger number and timestamp is forwarded to the operator interface;

- e) an acquisition processing system; and
- f) an operator interface.

15. (Currently Amended) The image correlation system of claim 14 wherein said physiological signal processing unit ~~includes~~ further comprises means for receiving physiological data from the physiological acquisition controller.

16. (Currently Amended) The image correlation system of claim 15 wherein said physiological signal processing unit ~~includes~~ further comprises means for receiving physiological data in the form of a physiological waveform.

17. (Currently Amended) The image correlation system of claim 16 wherein said physiological signal processing unit further ~~includes~~ further comprises means for providing a trigger for data acquisition, said trigger being readable by the application gateway processor.

18. (Cancelled)

19. (Currently Amended) The image correlation system of claim 17 wherein said application gateway processor ~~includes~~ further comprises means for providing time synchronization between a physiological waveform chain and an MR image chain.

20. (Currently Amended) The image correlation system of claim 19 wherein said application gateway processor ~~includes~~ further comprises means for

providing the scan control processor with the time stamp associated with the original trigger.